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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,990	02/19/2002	Chi Lam Wong	USP1787A-CLW	7105
7590 02/24/2005			EXAMINER	
RAYMOND Y. CHAN 1050 OAKDALE LANE ARCADIA, CA 91006			PRICE, CARL D	
			ART UNIT	PAPER NUMBER
			3749	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/079,990	Applicant(s) WONG, CHI LAM	
	Examiner CARL D. PRICE	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/05/2004, 12/06/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) 17-20, 25-34, 38 and 45-63 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 21-24, 35-37 and 39-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/02/2004 and 12/06/2004 has been entered.

Response to Arguments

Applicant's arguments filed 11/02/2004 and 12/06/2004 (claims 1-16, 21-24, 35-37 and 39-44) have been fully considered but they are not persuasive.

Regarding the rejection of claims 1-16, 21-24, 35-37 and 39-44, the examiner maintains the position that for the purpose to increase the number and character of torch flames and to provide increased flame stability a torch lighter as set forth in applicant's claims would have been obvious to a person having ordinary skill in the art. The prior art references of Anderson et al (US006171544B1) and US1884764 (Lonergan) teach the advantage of increasing the number and character of torch flames for providing increased flame stability in torches. Applicant's attention is directed to page 1, line 95 – page 2line 28 of US1884764 (Lonergan) which discloses that the primary, or main, flow of fuel through the ports (25) is “unobstructed” while the secondary ports deliver an “obstructed”, and therefore relatively smaller mixture flow.

Priority

Acknowledgment is made of applicant's intention to submit, before allowance, a certified copy of **CH 01246118.0** prior to allowance of the instant application is acknowledged.

Applicant having not yet filed a certified copy of the **CH 01246118.0** application as required by 35 U.S.C. 119(b). Certified copies the three remaining priority documents filed in China have been received and placed in the file.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, **unless** the references have been cited by the examiner on form PTO-892, or by applicant on form PTO-1449, they have not been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16, 21-24, 35-37 and 39-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, line 34, the recitation "... wherein a main portion of said mixture gas at said emitting opening of said nozzle body **bursts two or more**

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ejecting beams of said mixture gas ...” is confusing. Does applicant intend to claim - - wherein a main portion of said mixture gas at said emitting opening of said nozzle body bursts *into* (or, *form into*) two or more ejecting beams of said mixture gas - - ?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16, 21-24, 35-37, 39-44 rejected under 35 U.S.C. 103(a)

Claims 1-16, 21-24, 35-37 and 39-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over in view of JP ‘434 (Japanese 05-240434) in view of Lonergan and Anderson et al (US006171544B1).

JP ‘434 shows and discloses (figure 7) a fuel nozzle assembly including a nozzle body having a root opening and root chamber (29, for example), an emitting opening, an air inlet (L), wherein said air inlet is positioned adjacent to said root opening to define an elongated mixing chamber (K) axially extended between the air inlet to the emitting opening. JP ‘434 shows a combustion housing (F; figure 5) supported around the emitting opening of the nozzle body defining an ignition chamber (see 20) therein; and a single (R), or a plurality (18), of elongated

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nozzle ducts, each having an ignition end and a root end extending to a ceiling of the root chamber. JP '434 also discloses a torch stabilizing arrangement, in the form of elongated (gear shaped) emitting openings (Q) providing a plurality of root flame (illustrated in figures 6 and 7) portions which form stable root flames for igniting the mixture gas ejected from the ignition ends of the nozzle ducts for stabilizing and holding the spaced flames. JP '434 relies on a having a micro nozzle pore and filter (10, 11, 12) arrangement for vaporizing and delivering liquefied fuel from a valved container to a flame head in a windproof lighter having a combustion chamber and ignition means. JP '434 includes a casing having a liquid fuel gas storage and a fuel valve which is actuated by a fuel lever pivotally mounted in the casing for releasing fuel there from toward and ignition unit generating sparks. JP '434 however does not disclose a mixing chamber diameter of 1 mm to 2.5 mm, a micro nozzle pore diameter of 0.05 mm to 0.12 mm, a "mesh" filter, and the duct spacing as set forth in applicant's claims.

Longergan teaches, form the same nozzle field of endeavor as JP '434, a fuel nozzle assembly including a nozzle body having a root opening and root chamber (within 24), an emitting opening (28', for example), an air inlet (24), wherein said air inlet is positioned adjacent to said root opening to define an elongated mixing chamber (21') axially extended between the air inlet to the emitting opening. Longergan shows a combustion housing (27) supported around the emitting opening of the nozzle body and defines an ignition chamber therein; and a plurality of elongated nozzle ducts (25, 25a, 25^x), each having an ignition end and a root end extending to a ceiling of the root chamber. Longergan also discloses a torch stabilizing arrangement providing a plurality of root flames (26, 26a, 26^x) to form stable root flame (see figures 4a, 4b, 7a) portions which form stable root flames for igniting the mixture gas ejected from the ignition ends of the

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nozzle ducts for stabilizing and holding the spaced flames. The plurality of elongated ducts of Lonergan are disclosed as optionally arranged parallel (25), or diverging (25a, 25x).

Anderson et al (US006171544B1) teaches (see the entire document; in particular see column 3, lines 30-34 and line 67 which discuss "mixtures of fuel and oxidant" directed through openings 4,8 and 9), form the same nozzle field of endeavor as JP '434, and Lonergan, the advantages providing diverging jet-like torch flames, surrounded by small stabilizing flames, for providing increased flame stability in torches.

See also Anderson et al (column 4, line 57- column 5, line 22):

"10) Preferably, ... Volume 11 formed by extension 10 establishes a protective zone which serves to protect the gas streams and the fuel and oxidant immediately upon their outflow from lance end 2 thus helping to achieve coherency for each gas jet. The protective zone induces recirculation of the fuel and oxidant around the gas jets and in some cases around each individual gas jet. Thus, even though fuel and oxidant may not be provided initially into the volume 11 completely around the gas jets, the recirculation of the fuel and oxidant within the protective zone serves to ensure that one or more effective flame envelopes are formed so as to establish coherency for each gas jet.

(11) The flow of each gas jet remains distinct from the flow of all the other gas jets passed out from the nozzle openings of lance 1 for the entire length of such gas jet until the gas jet reaches its target. ... This is in contrast to what happens when conventional gas jets are ejected from the same lance. With such conventional gas jets, the jets quickly merge or flow together to form a single gas jet. The gas jets remain distinct for a distance of at least 10 nozzle exit diameters, typically at least 20 nozzle exit diameters, and generally for a distance within the range of from 20 to 100 nozzle exit diameters.

In regard to claims 1-16, 21-24,35-37 and 39-44, for the purpose of providing a suitable optional arrangement for the nozzle duct of JP '434, it would have been obvious to a person having ordinary skill in the art to modify the single duct of JP '4534 to be at least two diverging ducts, to increase the number of torch flames and flame stability, in view of the teaching of

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Lonergan and Anderson et al. In regard to claims 1 and 6-10, in particular, since the mixing chamber diameter, a micro nozzle pore, filter material, and the duct spacing for a given burner head arrangement would depend necessarily depend on numerous design concerns such as the type of fuel burned, the overall size and shape of the burner, desired flame size, etc., to select the mixing chamber diameter of 1 mm to 2.5 mm, a micro nozzle pore diameter of 0.05 mm to 0.12 mm, a "mesh" filter, and the duct spacing as set forth in applicant's claims, can be viewed a nothing more than a mere matter of choice in design absent the showing of any new or unexpected results there from over the prior art of record.

Conclusion

USPTO CUSTOMER CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARL D. PRICE whose telephone number is (571) 272-4880. The examiner can normally be reached on Monday through Friday between 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on (571) 272-4877. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Carl D. Price', with a stylized, flowing script.

CARL D. PRICE
Primary Examiner
Art Unit 3749

CP